Protein Flips Switch In Embryonic Stem Cell Growth

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Researchers at the Burnham Institute for Medical Research and the Scripps Research Institute have found that a protein known to play an important role in maintaining mouse embryonic stem cells has a similarly crucial job in human embryonic stem cells. This protein, called Shp2, acts as a switch, telling the cells to either divide to make more of themselves â a process called self-renewal â or to mature into different cell types â called differentiation. Fine-tuning this balance between self-renewal and differentiation will be critical for developing new therapies based on embryonic stem cells. The cells need to self-renew in order to grow up enough cells to be therapeutically useful. Once researchers have sufficient cells, they need to switch the cells over to a state where they can mature into cell types such as nerves, retinal cells, or pancreatic islets that can be used to study or treat disease.

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Related Information: Press Release, Burnham Institute for Medical Research

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